Ucc: R.T.B.
C.C.C.
J.K.

STATOTHR

September 30, 1957

Enclosures A and B

Dear Al:

The following report is offered on J57-P-57 605750.

The exterior of the engine was covered with fine powdered dirt and sandy soil. Some exterior plumbing had suffered minor damage by denting. Otherwise the appearance of the engine was remarkably good.

The engine rotated freely before disassembly. Disassembly investigation revealed the engine was still rotating on impact. There is general foreign material damage throughout the low compressor. Low compressor blades show generalized denting and curling on outer trailing edge with occasional nicks and tears. Approximately two hundred blades and a slightly lesser number of vanes require replacement. The high compressor has minor foreign material damage, all within limits and reparable by blending.

Fuel manifold and nozzles are completely normal. Combustion chamber weldments are in satisfactory condition. A few first stage nozzle guide vanes and turbine blades will require replacement because of slight foreign material damage.

All main bearings were oily and in good condition. However as a precautionary measure they will be replaced. There were no broken oil seals and all seals were satisfactory except for a very slight leak at #5.

As a matter of interest we found what appears to be sections of pages of a flight manual or pilots check chart or something of that nature strewn in the low compressor path. You will recall mentioning seeing paper in the engine in your report #127. This paper was well chopped up and was generally in the latter stages of the low compressor. We found no pieces as big as you reported. I am enclosing with this report the pieces we obtained so that the Investigating Board may be able to identify them.

After due consideration of the engine and the accident report it is our opinion that the engine did not contribute to the accident. Nothing of significance was found except the evidence of foreign material damage. The damage was slight enough so that we seriously doubt if any engine effect would have been noticeable to the driver. We have attempted to analyze the foreign material evidence and a set of prints of blade damage is enclosed. From observation of the blade damage and reconstructing the fatal flight we suggest that at the point of the canopy leaving the article, a cockpit document of size, shape and composition unknown to us but having some hard or metallic piece fell from the cockpit and was ingested into the engine. You will notice certain blades with deep dents or tears that could not have been made solely by paper. We also know that foreign material damage is apt to be greater on a slow turning engine than a fast running engine. For these reasons we believe the foreign material ingestion occurred during the actual crash. We will be interested to learn the identity and description of the document.

As indicated the engine is reparable and is now being overhauled.

J.K.G.